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1 [Code generation for just-in-time compiled mobile collector agents](#)
[John G. Allen](#), [Jesse S. Jin](#)

May 2003

VIP '02: Selected papers from the 2002 Pan-Sydney workshop

Volume 22

Publisher: Australian Computer Society, Inc.

 Full text available: [Pdf](#) (38.50 KB)

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Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 13, Downloads (All Time): 13

This paper describes MGEN/x86, a toolkit that simplifies the process of generating just-in-time (JIT) compilers for the x86 series of processor. MGEN produces portable user-defined sequence ...

Keywords: JIT, assemble, collector, compiler, mobile, x86

2 [Dynamic optimization for efficient strong atomicity](#)
[Florian T. Schneider](#), [Vijay Menon](#), [Tatiana Shpeisman](#), [Ali-Reza Adl-Tabatabaie](#)

 October 2008 **OOPSLA '08: Proceedings of the 23rd ACM SIGPLAN conference on Object-Oriented Programming, Systems, Languages, and Applications**
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Transactional memory (TM) is a promising concurrency control alternative to locks. It addresses important memory model issues regarding TM semantics and exposed problems with unsafe, managed languages such as ...

Keywords: code generation, compiler optimizations, dynamic optimization, virtual machines

Also published in:

 October 2008 **SIGPLAN Notices** Volume 43 Issue 10

3 [Secure virtual architecture: a safe execution environment for commodity operating systems](#)
[John Criswell](#), [Andrew Lenharth](#), [Dinakar Dhurjati](#), [Vikram Adve](#)

 October 2007 **SOSP '07: Proceedings of twenty-first ACM SIGOPS symposium on Operating Systems Principles**
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This paper describes an efficient and robust approach to provide a *safe* system, such as Linux, and all its applications. The approach, which we defines ...

Keywords: compiler, memory safety, operating systems, security, type machine


Also published in:

October 2007 **SIGOPS Operating Systems Review** Volume 41 Issue 6

4 [Design of the Java HotSpot™ client compiler for Java 6](#)

 Thomas Kotzmann, Christian Wimmer, Hanspeter Mössenböck, Thomas Ro
May 2008 **Transactions on Architecture and Code Optimization (T**

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (1.14 MB)


Additional Information: [full citation](#), [abs!](#)

Bibliometrics: Downloads (6 Weeks): 40, Downloads (12 Months): 433, Downl

Version 6 of Sun Microsystems' Java HotSpot™ VM ships with a redesign that includes several research results of the last years. The client compi used by default ...

Keywords: Java, compiler, deoptimization, intermediate representatio register allocation

5 [Compiler and runtime support for efficient software transactional me](#)

 Ali-Reza Adi-Tabatabai, Brian T. Lewis, Vijay Menon, Brian R. Murphy, Brat
June 2006 **PLDI '06: Proceedings of the 2006 ACM SIGPLAN conference**

implementation

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (211.55 KB)

Additional Information: [full citation](#), [abs!](#)

Bibliometrics: Downloads (6 Weeks): 27, Downloads (12 Months): 373, Downl


Programmers have traditionally used locks to synchronize concurrent ac synchronization, however, has well-known pitfalls: using locks for fine-gr that already uses locks are both difficult ...

Keywords: code generation, compiler optimizations, locking, synchroni machines

Also published in:

June 2006 **SIGPLAN Notices** Volume 41 Issue 6

6 [RPython: a step towards reconciling dynamically and statically typed](#)


 Davide Ancona, Massimo Ancona, Antonio Cuni, Nicholas D. Matsakis

October 2007 **DLS '07: Proceedings of the 2007 symposium on Dynamic la**



Publisher: ACM

Full text available:  Pdf (239.48 KB)Additional Information: [full citation](#), [abstract](#)**Bibliometrics:** Downloads (6 Weeks): 7, Downloads (12 Months): 91, Download

Although the C-based interpreter of Python is reasonably fast, implemen offers some advantages in terms of robustness and interoperability. Unf primarily designed to execute ...

Keywords: .NET, JVM, Python**7** [C and tcc: a language and compiler for dynamic code generation](#) [Massimiliano Poletto, Wilson C. Hsieh, Dawson R. Engler, M. Frans Kaashoer](#)
March 1999 **Transactions on Programming Languages and Systems****Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (471.68 KB)Additional Information: [full citation](#), [abstract](#)**Bibliometrics:** Downloads (6 Weeks): 18, Downloads (12 Months): 113, Downl




Dynamic code generation allows programmers to use run-time informat expressiveness superior to those of static code. The 'C(Tick C) language efficient and high-level ...

Keywords: ANSI C, compilers, dynamic code generation, dynamic code**8** [Online optimizations driven by hardware performance monitoring](#) [Florian T. Schneider, Mathias Payer, Thomas R. Gross](#)
June 2007 **PLDI '07: Proceedings of the 2007 ACM SIGPLAN conference**
implementation**Publisher:** ACM  [Request Permissions](#)Full text available:  Pdf (224.36 KB)Additional Information: [full citation](#), [abstract](#)**Bibliometrics:** Downloads (6 Weeks): 17, Downloads (12 Months): 122, Downl

Hardware performance monitors provide detailed direct feedback about source of infor-mation that a compiler may use for optimization. A JIT c such information because ...

Keywords: Java, dynamic optimization, hardware performance monitor

Also published in:

June 2007 **SIGPLAN Notices** Volume 42 Issue 6**9** [Optimistic parallelism benefits from data partitioning](#) [Milind Kulkarni, Keshav Pingali, Ganesh Ramanarayanan, Bruce Walter, Ka](#)
March 2008 **ASPLOS XIII: Proceedings of the 13th international conferer**
languages and operating systems**Publisher:** ACM  [Request Permissions](#)Full text available:  Flv (22:0 MIN),  Pdf (356.09 KB) Additional Information: [full citatio](#)**Bibliometrics:** Downloads (6 Weeks): 15, Downloads (12 Months): 223, Downl

Recent studies of irregular applications such as finite-element mesh gen shown that these applications have a generalized data parallelism arisin perform computations on ...

Keywords: data partitioning, irregular programs, locality, lock coarseni decomposition

Also published in:

March 2008 **SIGARCH Computer Architecture News** Volume 36 Issue 1

March 2008 **SIGPLAN Notices** Volume 43 Issue 3

March 2008 **SIGOPS Operating Systems Review** Volume 42 Issue 2

10 Code Generation and Optimization for Transactional Memory Constr

[Cheng Wang, Wei-Yu Chen, Youfeng Wu, Bratin Saha, Ali-Reza Adi-Tabatal](#)

March 2007 **CGO '07: Proceedings of the International Symposium on Co**

Publisher: IEEE Computer Society


Full text available:  Pdf (365.03 KB)

Additional Information: [full citation](#), [abs](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 153, Downl

Transactional memory offers significant advantages for concurrency con the design and implementation of transactional memory constructs in a languages pose a unique set of challenges ...

11 Just-In-Time compilation on ARM processors

 [Michele Tartara, Simone Campanoni, Giovanni Agosta, Stefano Crespi Regt](#)

July 2009 **ICOOOLPS '09: Proceedings of the 4th workshop on the Imp**
Object-Oriented Languages and Programming Systems

Publisher: ACM 

Full text available:  Pdf (604.92 KB)


Additional Information: [full citation](#), [abs](#)

Bibliometrics: Downloads (6 Weeks): 15, Downloads (12 Months): 41, Downlo

This paper presents a Just-In-Time compilation system for ARM process starting from static compilation of the sources into CIL (Common Intern intermediate languages that are used ...

Keywords: ARM, dynamic compilation, embedded systems

12 Tracing for web 3.0: trace compilation for the next generation web ap

 [Mason Chang, Edwin Smith, Rick Reitmaier, Michael Beberita, Andreas Gai](#)
Franz

March 2009 **VEE '09: Proceedings of the 2009 ACM SIGPLAN/SIGOPS inte**
environments

Publisher: ACM 

Full text available:  Pdf (647.16 KB)


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Bibliometrics: Downloads (6 Weeks): 53, Downloads (12 Months): 291, Downl

Today's web applications are pushing the limits of modern web browser: platform of choice for rich client-side applications has shifted the use of programs to large computationally ...

Keywords: dynamic compilation, dynamically typed languages, forth, j specialization

13 [Enforcing isolation and ordering in STM](#)

 [Tatiana Shpeisman](#), [Vijay Menon](#), [Ali-Reza Adl-Tabatabai](#), [Steven Balensief](#), [Katherine F. Moore](#), [Bratin Saha](#)

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Transactional memory provides a new concurrency control mechanism t
synchronization. High-performance software transactional memory (STM
atomicity: Accessing shared ...

Keywords: code generation, compiler optimizations, escape analysis, is
transactional memory, virtual machines, weak atomicity

Also published in:

June 2007 **SIGPLAN Notices** Volume 42 Issue 6

14 [Hardware atomicity for reliable software speculation](#)

 [Naveen Neelakantam](#), [Ravi Rajwar](#), [Suresh Srinivas](#), [Uma Srinivasan](#), [Craig](#)
June 2007 **ISCA '07: Proceedings of the 34th annual international symp**

Publisher: ACM

Full text available:  [Pdf](#) (805.55 KB)

Additional Information: [full citation](#), [abst](#)

Bibliometrics: Downloads (6 Weeks): 13, Downloads (12 Months): 121, Downl


Speculative compiler optimizations are effective in improving both single
consumption, but their implementation introduces significant complexity
optimization scope, and ...

Keywords: Java, atomicity, checkpoint, isolation, optimization, specula


Also published in:

June 2007 **SIGARCH Computer Architecture News** Volume 35 Issue 2

15 [Design and evaluation of dynamic optimizations for a Java just-in-tim](#)

 [Toshio Sukanuma](#), [Toshiaki Yasue](#), [Motohiro Kawahito](#), [Hideaki Komatsu](#), T
July 2005 **Transactions on Programming Languages and Systems**

Publisher: ACM  [Request Permissions](#)

Full text available:  [Pdf](#) (1.60 MB)

Additional Information: [full citation](#), [abst](#)

Bibliometrics: Downloads (6 Weeks): 21, Downloads (12 Months): 219, Downl

The high performance implementation of Java Virtual Machines (JVM) ar
toward employing a dynamic compilation system on the basis of online

between the compilation overhead ...

Keywords: JIT compiler, Recompilation, adaptive optimization, code sp
directed method inlining

- 16** [Revisiting Out-of-SSA Translation for Correctness, Code Quality and](#)
[Benoit Boissinot, Alain Darté, Fabrice Rastello, Benoit Dupont de Dinechin,](#)
March 2009 **CGO '09: Proceedings of the 2009 International Symposium (**
Publisher: IEEE Computer Society

Full text available:  Pdf (287.20 KB)


Additional Information: [full citation](#), [abst](#)

Bibliometrics: Downloads (6 Weeks): 19, Downloads (12 Months): 80, Downlo

Static single assignment (SSA) form is an intermediate program repres
can be performed with fast and easy-to-implement algorithms. However
situations where the SSA variables ...

Keywords: SSA form, Compilers, JIT-compilation

- 17** [CodeBricks: code fragments as building blocks](#)

 [Giuseppe Attardi, Antonio Cisternino, Andrew Kennedy](#)

June 2003 **PEPM '03: Proceedings of the 2003 ACM SIGPLAN workshop**
program manipulation

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (294.34 KB)

Additional Information: [full citation](#), [abst](#)

Bibliometrics: Downloads (6 Weeks): 6, Downloads (12 Months): 38, Downloa


We present a framework for code generation that allows programs to m
level while the joining and splicing of executable code is carried out aut
The framework introduces ...

Keywords: domain specific language, generative programming, metap
program generation, program transformation, reflection

Also published in:

October 2003 **SIGPLAN Notices** Volume 38 Issue 10

- 18** [Techniques for obtaining high performance in Java programs](#)

 [Iffat H. Kazi, Howard H. Chen, Berdenia Stanley, David J. Lilja](#)

September 2000 **Computing Surveys (CSUR)** , Volume 32 Issue 3

Publisher: ACM  [Request Permissions](#)

Full text available:  Pdf (816.13 KB)


Additional Information: [full citation](#), [abst](#)

Bibliometrics: Downloads (6 Weeks): 77, Downloads (12 Months): 487, Downl

This survey describes research directions in techniques to improve the p
programming language. The standard technique for Java execution is in
portability of programs. ...


Keywords: Java, Java virtual machine, bytecode-to-source translators, interpreters, just-in-time compilers

19 [SciSim: a software performance estimation framework using source](#)

 [Zhonglei Wang, Antonio Sanchez, Andreas Herkersdorf](#)

June 2008 **WOSP '08:** Proceedings of the 7th international workshop on

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Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 17, Downloads (12 Months): 93, Downlo

Recently, software performance estimation based on source code instru
literature. It achieves significant speedup without compromising accurac
However, much work still ...


Keywords: debugging information, microarchitecture, software perform
instrumentation

20 [Demystifying magic: high-level low-level programming](#)

 [Daniel Frampton, Stephen M. Blackburn, Perry Cheng, Robin J. Garner, Da](#)

March 2009 **VEE '09:** Proceedings of the 2009 ACM SIGPLAN/SIGOPS inte
environments

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Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 35, Downloads (12 Months): 196, Downl

The power of high-level languages lies in their abstraction over hardwar
security, better reliability, and lower development costs. However, opac
systems programmers, ...

Keywords: debugging, intrinsics, jikes rvm, magic, mmtk, systems pro

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